

CLAIMS

1. Plant seeds that contain an oil having an oleic acid content of more than 40 wt% and a stearic acid content of more than 12 wt% based on the total fatty acid content of said oil, and wherein a maximum of 10 wt% of the fatty acid groups in the sn-2 position of the TAG molecules constituting the oil are saturated fatty acid groups.

10 2. Plant seeds according to claim 1, wherein the seeds contain an oil that has in the sn-2 position of the TAG molecules constituting the oil a maximum of 8 wt% of saturated fatty acid groups.

15 3. Plant seeds according to claims 1 or 2, wherein the seeds contain an oil that has in the sn-2 position of the TAG molecules constituting the oil a maximum of 5 wt% of saturated fatty acid groups.

4. Plant seeds according to claims 1-3, wherein the oleic acid content is from 55 to 75 wt%.

20 5. Plant seeds according to claims 1-4, wherein the stearic acid content is from 15 to 50 wt%.

6. Plant seeds according to claim 5, wherein the stearic acid content is from 20 to 40 wt%.

7. Plant seeds according to claims 1-6, wherein 25 the oil has a total level of saturated fatty acids of at least 20 wt%.

8. Plant seeds according to claims 1-7, wherein the oil has a linoleic acid content of less than 20 wt%.

9. Plant seeds according to claims 1-8, 30 characterized in that said seeds are sunflower seeds.

10. Oil having an oleic acid content of more than 40 wt% and a stearic acid content of more than 12 wt% based on the total fatty acid content of said oil, and wherein a maximum of 10 wt% of the fatty acid groups 35 in the sn-2 position of the TAG molecules constituting the oil are saturated fatty acid groups.

11. Oil as claimed in claim 10, as contained in plant seeds as claimed in claims 1-9.

12. Plants grown from plant seeds according to claims 1-9.

13. Plants producing plant seeds according to claims 1-9.

5 14. Method for producing a plant which forms seeds as claimed in claims 1-9, which method comprises:

a) providing seeds which contain an oil having a stearic acid content of at least 12 wt%;

10 b) providing seeds which contain an oil having an oleic acid content of at least 40 wt% and a thioesterase activity over stearoyl-ACP of at least 10% of the thioesterase activity over oleoyl-ACP;

c) crossing plants grown from the seeds provided in step (a) and (b);

15 d) harvesting the F1 seed progeny.

15. Method as claimed in claim 14, further comprising the steps of:

e) planting the F1 progeny seeds to grow plants;

20 f) self-pollinating the plants thus grown to produce F2 seed;

g) testing the seed for the presence of a stearic acid content of at least 12 wt%, an oleic acid content of at least 40 wt% and a thioesterase activity over stearoyl-ACP of at least 10% of the thioesterase activity over oleoyl-ACP;

25 h) planting seeds having the desired levels of stearic acid content, oleic acid content and thioesterase activity to grow plants;

30 i) self-pollinating the plants thus grown to produce F3 seed; and

j) optionally repeating steps g), h) and i) until the desired levels of stearic acid content and oleic acid content and the high thioesterase activity are 35 fixed.

16. Method as claimed in claims 14 and 15, wherein the seeds which contain an oil having a stearic acid content of at least 12 wt% are provided by:

- a) mutagenic treatment of seeds having a stearic acid content of less than 12%;
- b) producing plants therefrom which are pollinated to produce seeds;

5 c) testing the seeds for the desired stearic acid content; and

- d) optionally repeating steps b) and c).

17. Method as claimed in claims 14-16, wherein the seeds are sunflower seeds.

10 18. Meal or crushed seeds originating from seeds according to claims 1-9.